Based on the radioactive decay chain, only 4 radioactive constituents are expected to occur in the ISR waste fluids: Radium-226, Th-230, Polonium-210 and Pb-210. These are the longest lived daughter elements. The rest of the daughter elements are so short-lived they are not expected to be detectable. Th-230, Polonium-210 and Pb-210, are not expected to be present at concentrations above the limits. The Class V permit requires testing to confirm these concentrations.

Wastewater will be redirected back to the central processing plant for ion-exchange treatment to remove uranium, the wastewater will then be mixed with barium chloride, and finally wastewater will be discharged into lined settling ponds (i.e., radium removal ponds).

The barium chloride chemically binds to radium in solution and deposits as a sludge that will be removed and sent to a licensed disposal facility (Powertech, 2010a). Following radium removal processing, the applicant will then inject the combined waste streams

The NRC states in the Crownpoint Uranium Solution Mining Project SEIS in SEction 2.1.2.3 that HRI has documented radium-removal tests on sample mine water from the proejct area; these tests indicated that more tahn 99% of radium in solutio would be removed using the tested techniques (TAble 2.3). The treatment results in radium concentrations below 1% of the Federal limits for releases to waterway. The effetivness of this treatment would be monitored by daily water sampling.